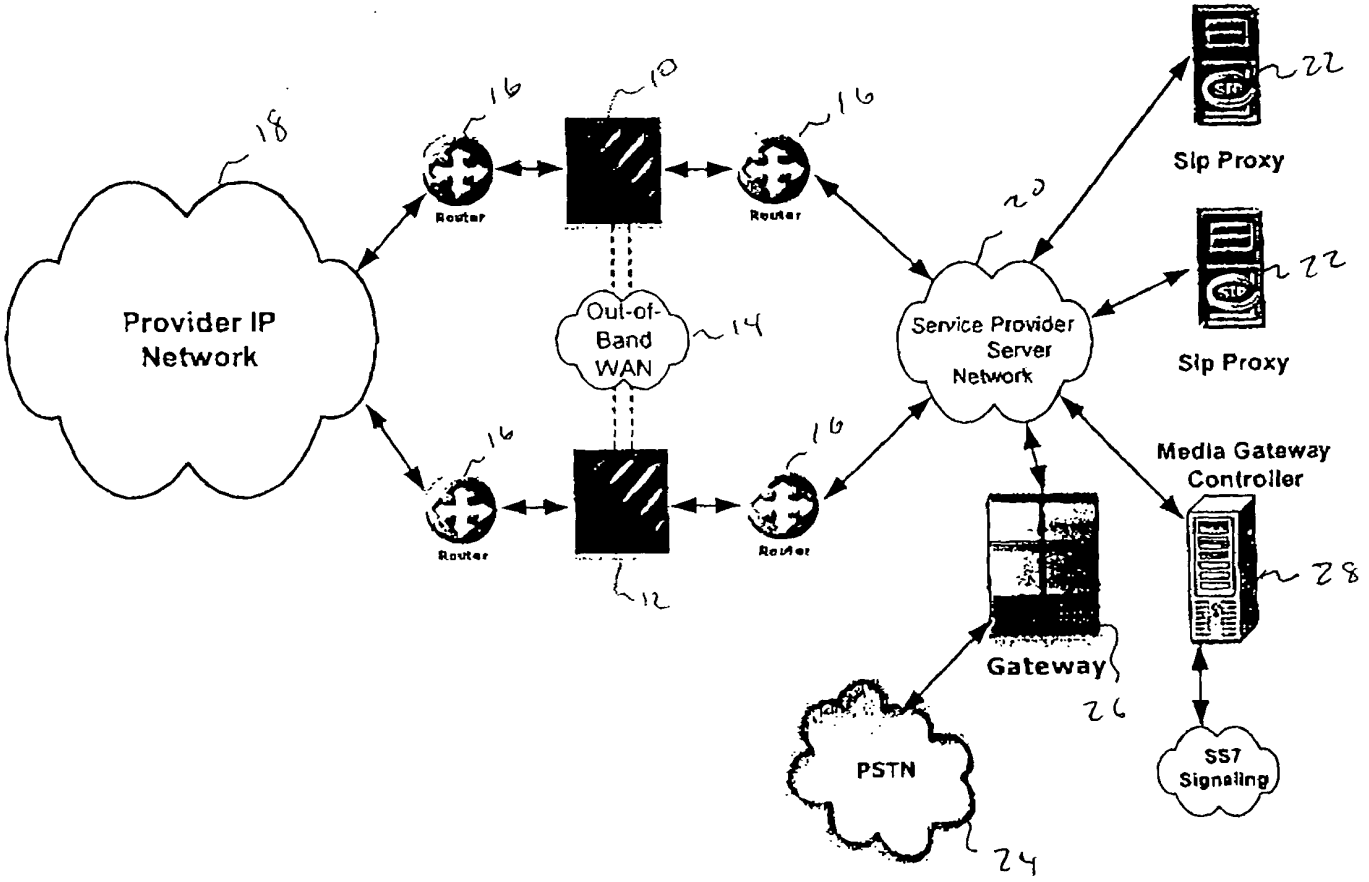

Provider IP Network
18
Router
16
10
Out-of-Band WAN
14
12
Service Provider Server Network
20
Sip Proxy
22
Media Gateway Controller
28
Gateway
26
PSTN
24
SS7 Signaling

Fig. 1a

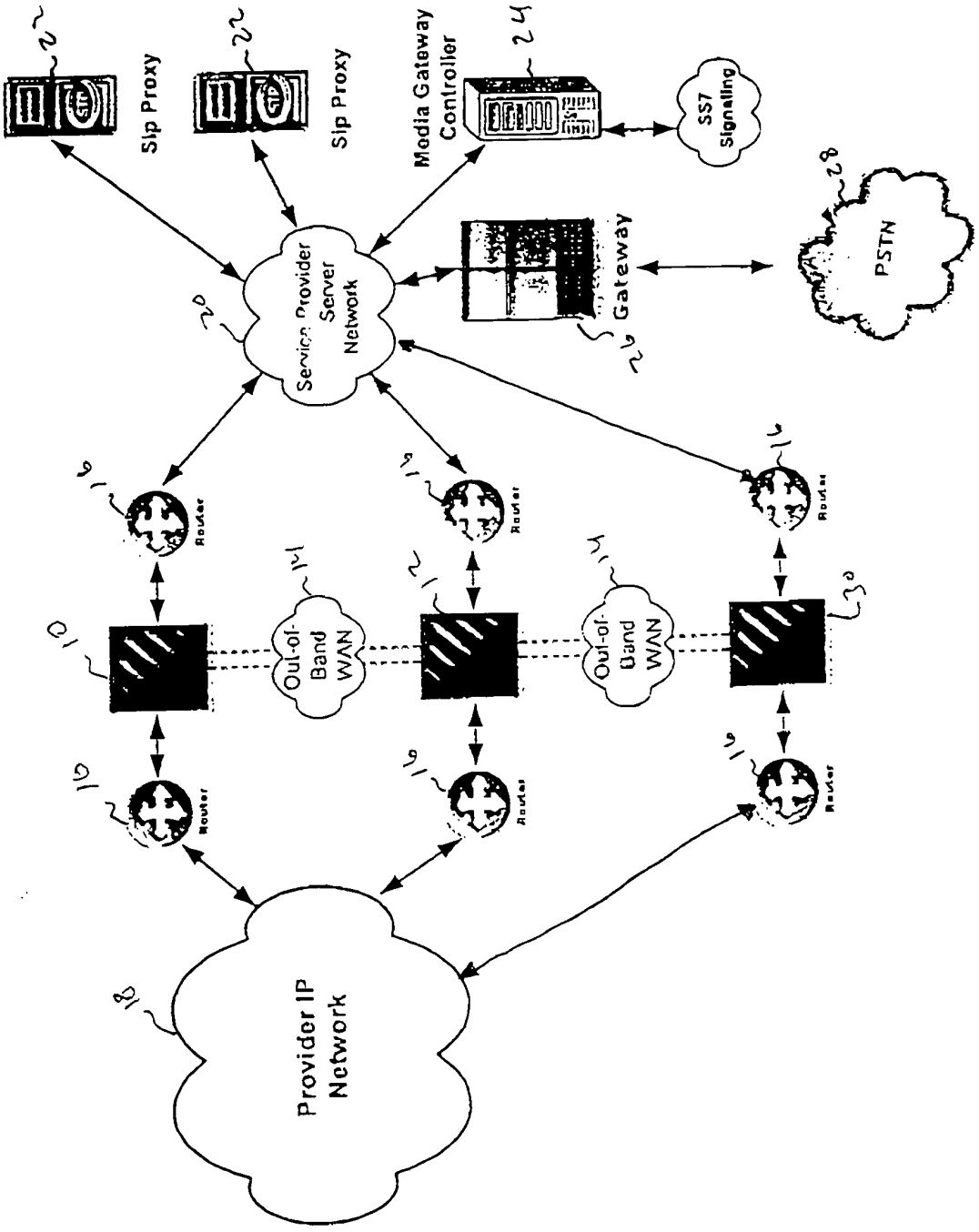

Sip Proxy
Sip Proxy
Media Gateway Controller
SS7 Signaling
Service Provider Server Network
Gateway
PSTN
Router
Out-of-Band WAN
Out-of-Band WAN
Provider IP Network

Fig 1b

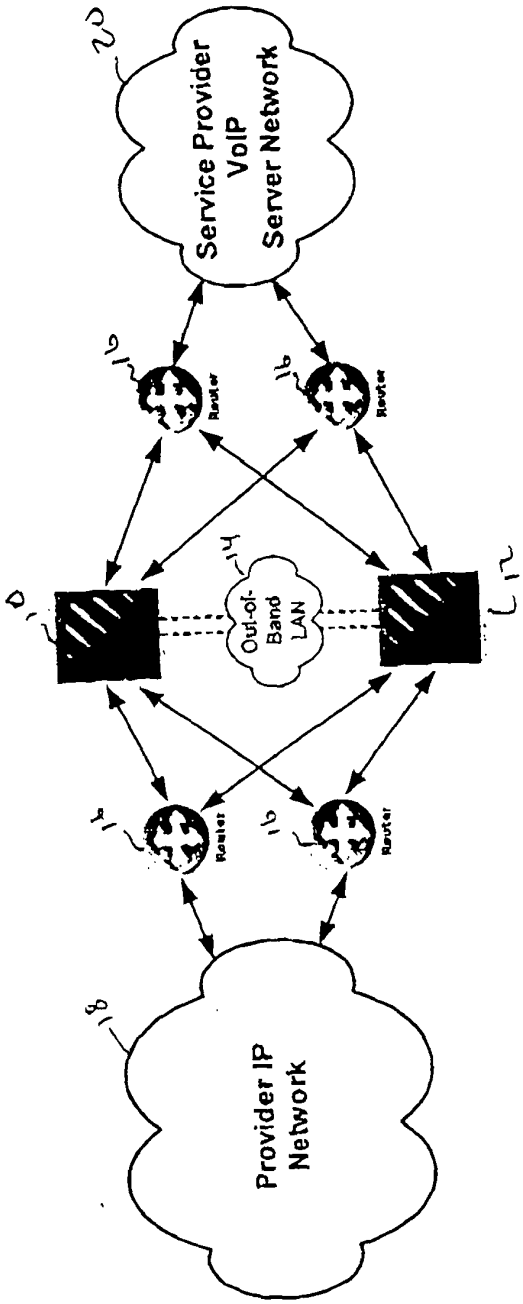

Service Provider VoIP Server Network
Router
Router
Out-of-Band LAN
Router
Router
Provider IP Network

Fig. 2

FIG. 3

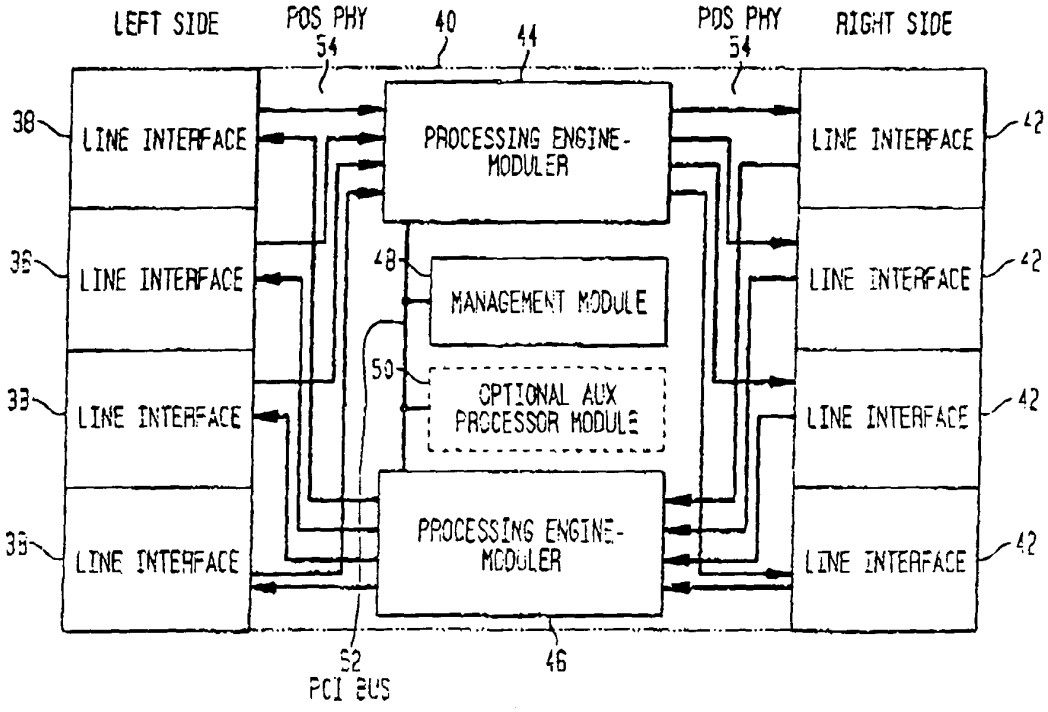
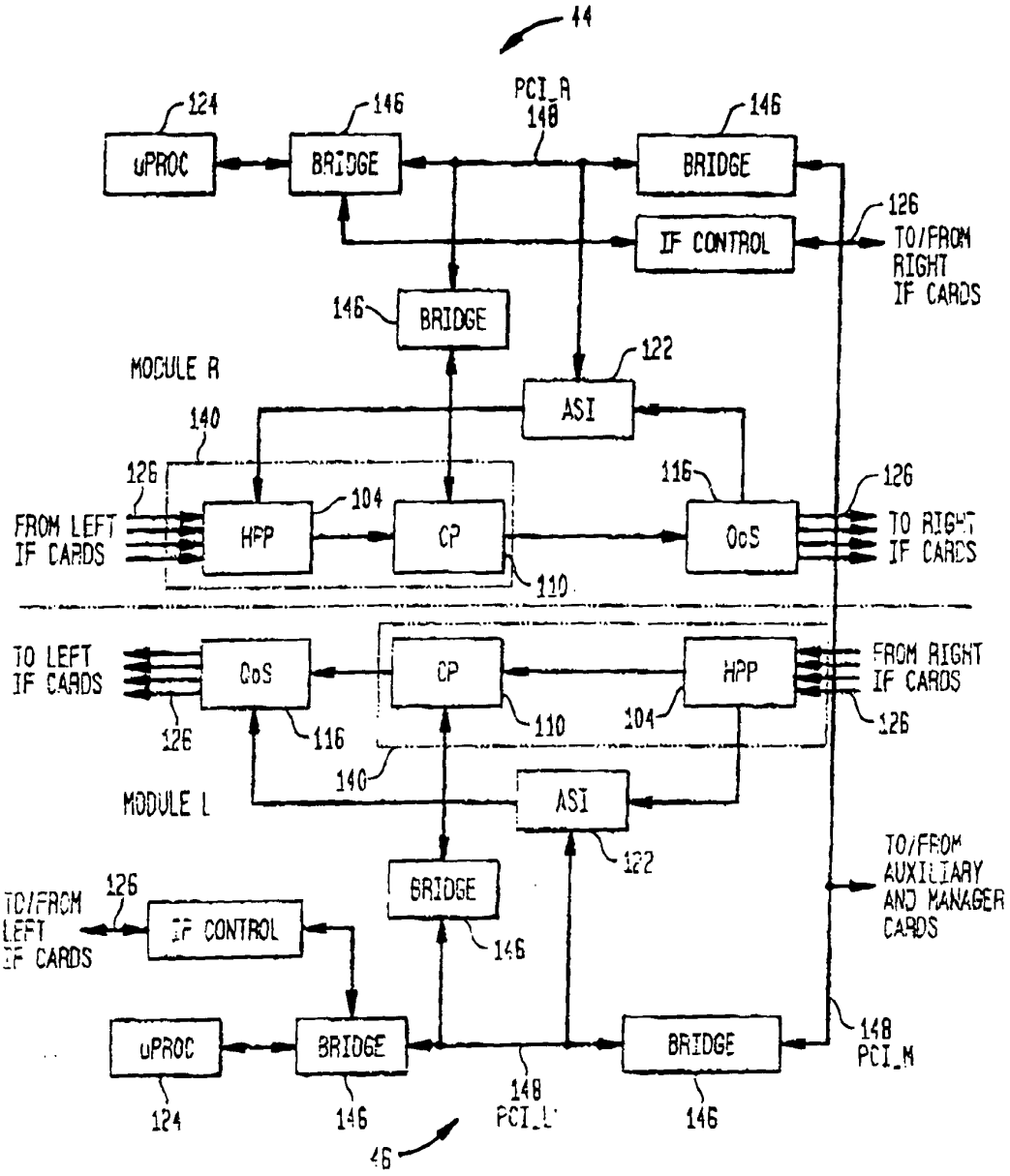

LEFT SIDE
POS PHY
54
40
44
POS PHY
54
RIGHT SIDE
38
LINE INTERFACE
36
LINE INTERFACE
34
LINE INTERFACE
32
LINE INTERFACE
PROCESSING ENGINE-MODULER
48
MANAGEMENT MODULE
50
OPTIONAL AUX PROCESSOR MODULE
PROCESSING ENGINE-MODULER
42
LINE INTERFACE
42
LINE INTERFACE
42
LINE INTERFACE
42
LINE INTERFACE
52
PCI BUS
46

FIG. 4


44
124
146
PCI_A
148
146
uPROC
BRIDGE
BRIDGE
126
IF CONTROL
TO/FROM
RIGHT
IF CARDS
146
BRIDGE
MODULE R
122
ASI
140
126
116
126
FROM LEFT
IF CARDS
HPP
104
CP
QoS
TO RIGHT
IF CARDS
110
TO LEFT
IF CARDS
QoS
CP
HPP
FROM RIGHT
IF CARDS
126
116
110
104
126
140
MODULE L
ASI
122
TO/FROM
AUXILIARY
AND MANAGER
CARDS
BRIDGE
126
TO/FROM
LEFT
IF CARDS
IF CONTROL
146
uPROC
BRIDGE
BRIDGE
148
PCI_M
124
146
148
PCI_L
146
46

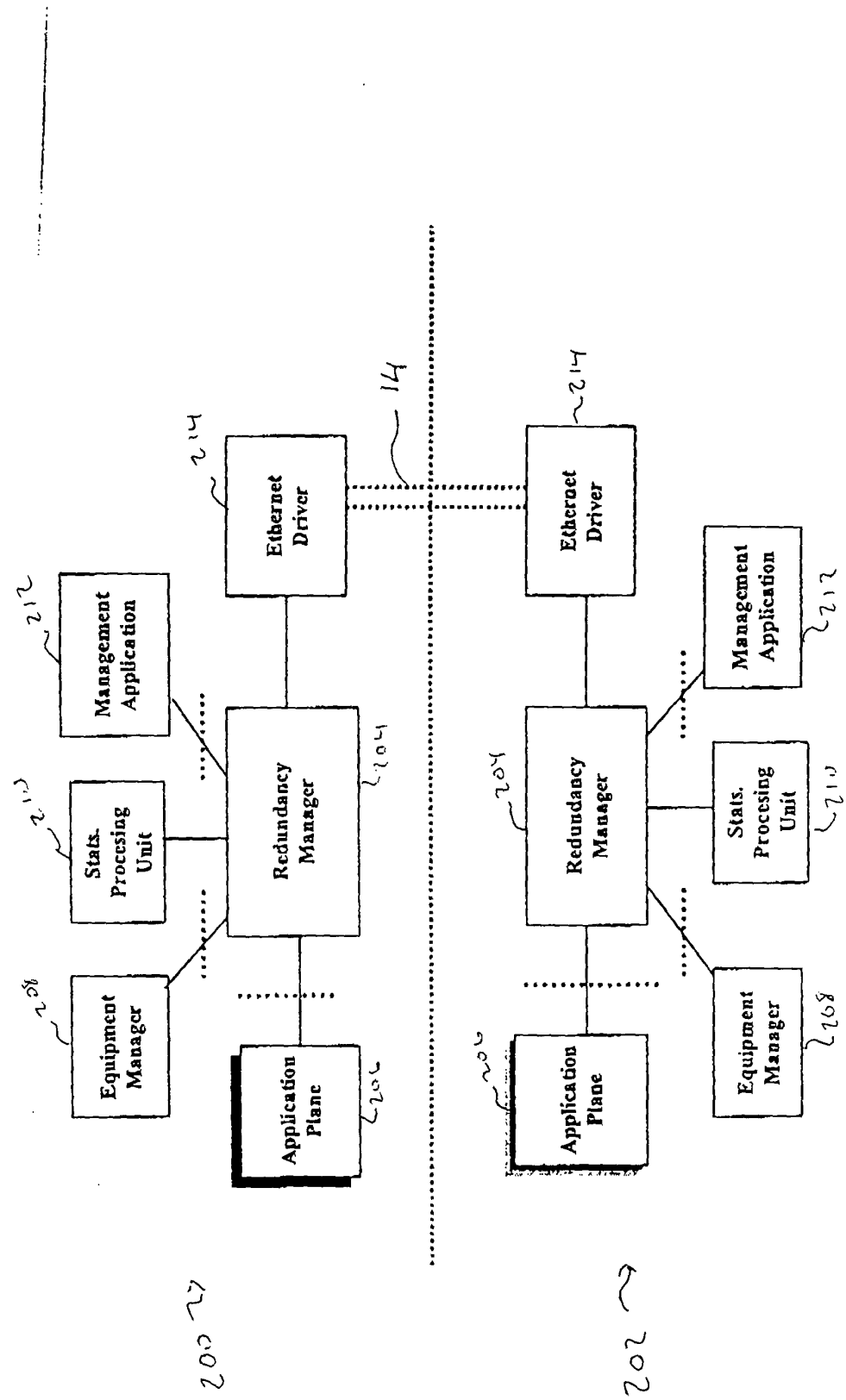

Ethernet Driver
Ethernet Driver
14
Management Application
Management Application
Stats. Processing Unit
Stats. Processing Unit
Redundancy Manager
Redundancy Manager
Equipment Manager
Equipment Manager
Application Plane
Application Plane
202
202

FIG. 5

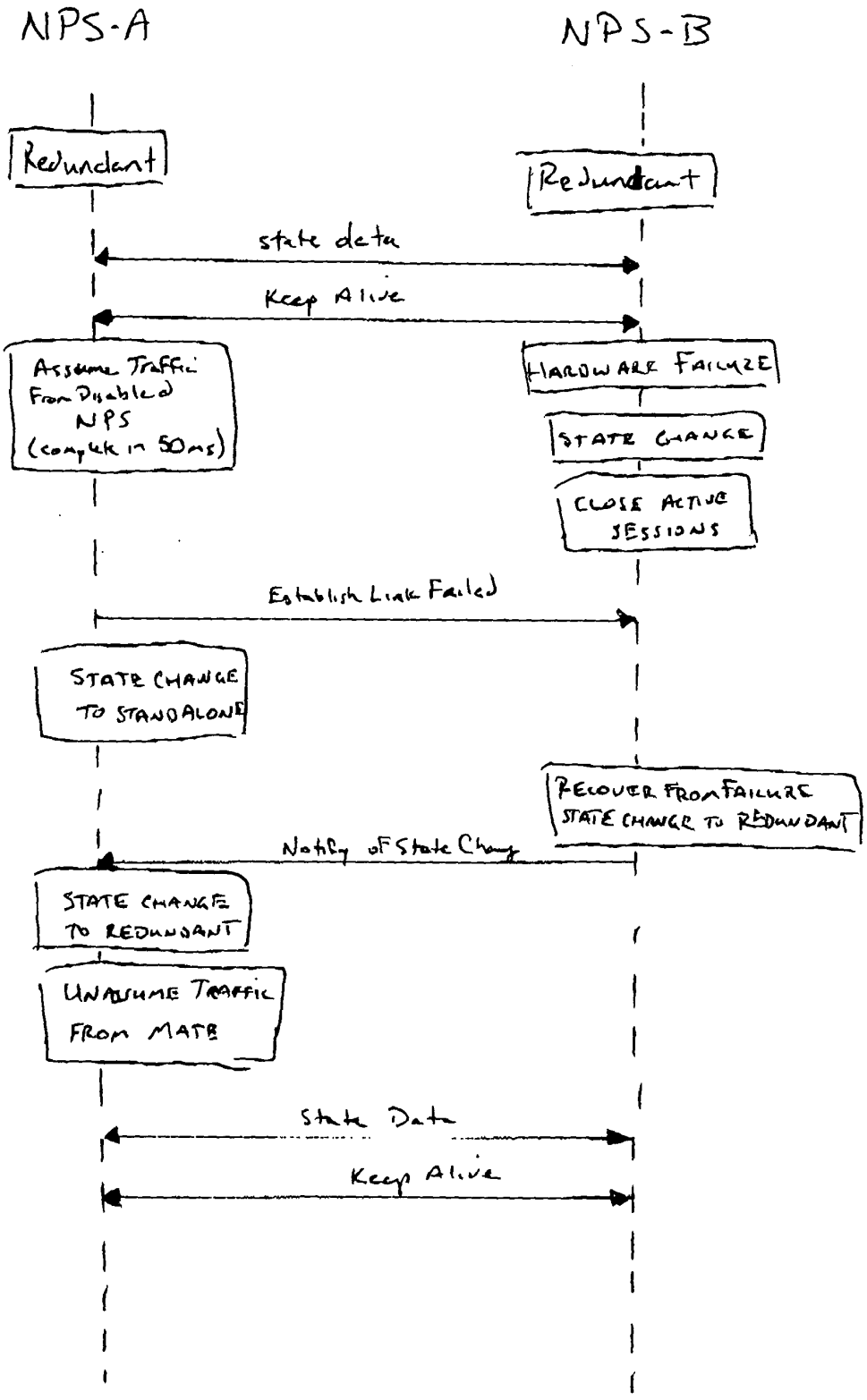

NPS-A
NPS-B
Redundant
Redundant
state data
Keep Alive
Assume Traffic From Disabled NPS (complete in 50ms)
HARDWARE FAILURE
STATE CHANGE
CLOSE ACTIVE SESSIONS
Establish Link Failed
STATE CHANGE TO STANDALONE
RECOVER FROM FAILURE STATE CHANGE TO REDUNDANT
Notify of State Change
STATE CHANGE TO REDUNDANT
UNASSUME TRAFFIC FROM MATE
State Data
Keep Alive

FIG. 6